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PATENT & TRADEMARK OFFICE
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**IN THE CLAIMS**:

1-12. (Cancelled).

Please amend claim 13 and cancel claim 24 as follows.

13. (Presently Amended) A method of producing ~~superconducting cables~~ superconductors comprising the steps of:

- forming bars, each comprising: i) a core defined by a mono- or multifilament of superconducting material~~, the superconducting material preferably consisting in a NbTi alloy~~; and a ii) a copper sheath; ~~and, optionally, iii) a barrier layer consisting in a noble metal or metal alloy interposed there between;~~
- assembling said bars inside a copper shell [[~~in~~]] to form an assembly [[~~of~~]] having predetermined configuration;
- subjecting in sequence said assembly to a number of plastic deformation operations;

wherein all said plastic deformation operations are carried out solely by cold plastic deformation steps; and wherein said bars are formed with a round cross section and a relatively long length; the step of assembling the bars inside a copper shell to form said assembly including the following steps:

- assembling said bars about a cylindrical copper core of substantially the same length thereof, using assembly templates which are openable like a book and are fitted to and slide along an assembly bench, the templates having through holes arranged in a circle to support the bars, and a central through seat for supporting the core;
- tying the bars onto an outer lateral surface of the core to obtain a semi-finished

assembly defined by the bars assembled by ties in a circle against the core;

- sliding onto a first end of the semi-finished assembly a number of metal supporting rings resting on the assembly bench and enclosing said bars, while sliding said templates off a second end of the semi-finished assembly, opposite to the first end;
- sliding a copper tube onto the semi-finished assembly starting from said first end, while at the same time cutting the ties progressively as they are reached by the tube, and sliding off said supporting rings at said second end, so as to obtain said assembly, wherein said bars are retained in said predetermined configuration on the copper core by the copper tube mounted concentrically with the core.

14. (Previously presented) The method of Claim 13, wherein the assembly is firstly subjected to a first number of cold drawing operations to gradually reduce its cross section and so increasing its length, up to obtain predetermined dimension.

15. (Previously presented) The method of Claim 13, wherein said rings have substantially the same radial dimensions as the copper tube, and are pushed towards said second end by the copper tube as it is fitted gradually onto said semi-finished assembly.

16. (Previously presented) The method of Claim 14, wherein at the end of said first number of cold drawing operations, said assembly brought to said predetermined dimension is heat treaded by immersing it in a salt bath.

17. (Previously presented) The method of Claim 16, wherein prior to carry out said salt bath heat treatment step opposite ends of said assembly brought to said predetermined dimension are closed substantially in fluid tight manner by caps.

18. (Previously presented) The method of Claim 17, wherein said caps are cup-shaped to fit onto said opposite ends of the assembly; and wherein said caps are made of a material selected to have a thermal expansion coefficient lower than that of copper, so as to result to be self-sealing; said selected material for the caps being preferably iron.

19. (Previously presented) The method of Claim 13, wherein said assembly is first subjected to a first cold drawing step to achieve a relatively small reduction in section ranging between 4% and 9%, so locking mechanically said copper core, said copper tube, and said bars integral with one another; and then to a number of successive cold drawing steps, each producing a constant reduction in section, up to obtain said predetermined dimension.

20. (Previously presented) The method of Claim 19, wherein each of said successive cold drawing steps is performed to obtain a roughly 18 to 24% reduction in section of the assembly.

21. (Previously presented) The method of Claim 13, wherein said copper tube is slid onto said assembly by a "pinch-roll" device fitted removably to one end of said assembly bench, at said first end of the semi-finished assembly; said "pinch-roll" device comprising two rollers pressed against each other by compression means, and between which the tube is pinched; and at least one of the rollers being rotated by a motor.

22. (Previously presented) The method as claimed in Claim 21, wherein, at said second end of the semi-finished assembly, said assembly bench is fitted with a counter-head movable axially towards said "pinch-roll" device; as said copper tube is fitted on, the semi-finished assembly being held resting axially against said counter-head; and the final stage in the step of fitting the copper tube onto the assembly being performed by stopping rotation of said rollers to arrest the copper tube, and by feeding said counter-head axially forward to insert the assembly inside the tube.

23. (Previously presented) The method of Claim 13, wherein, prior to said step of assembling said bars about said copper core, the bars and the core are subjected to a chemical treatment.

24. Cancelled.